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PERU COCOA ALLIANCE

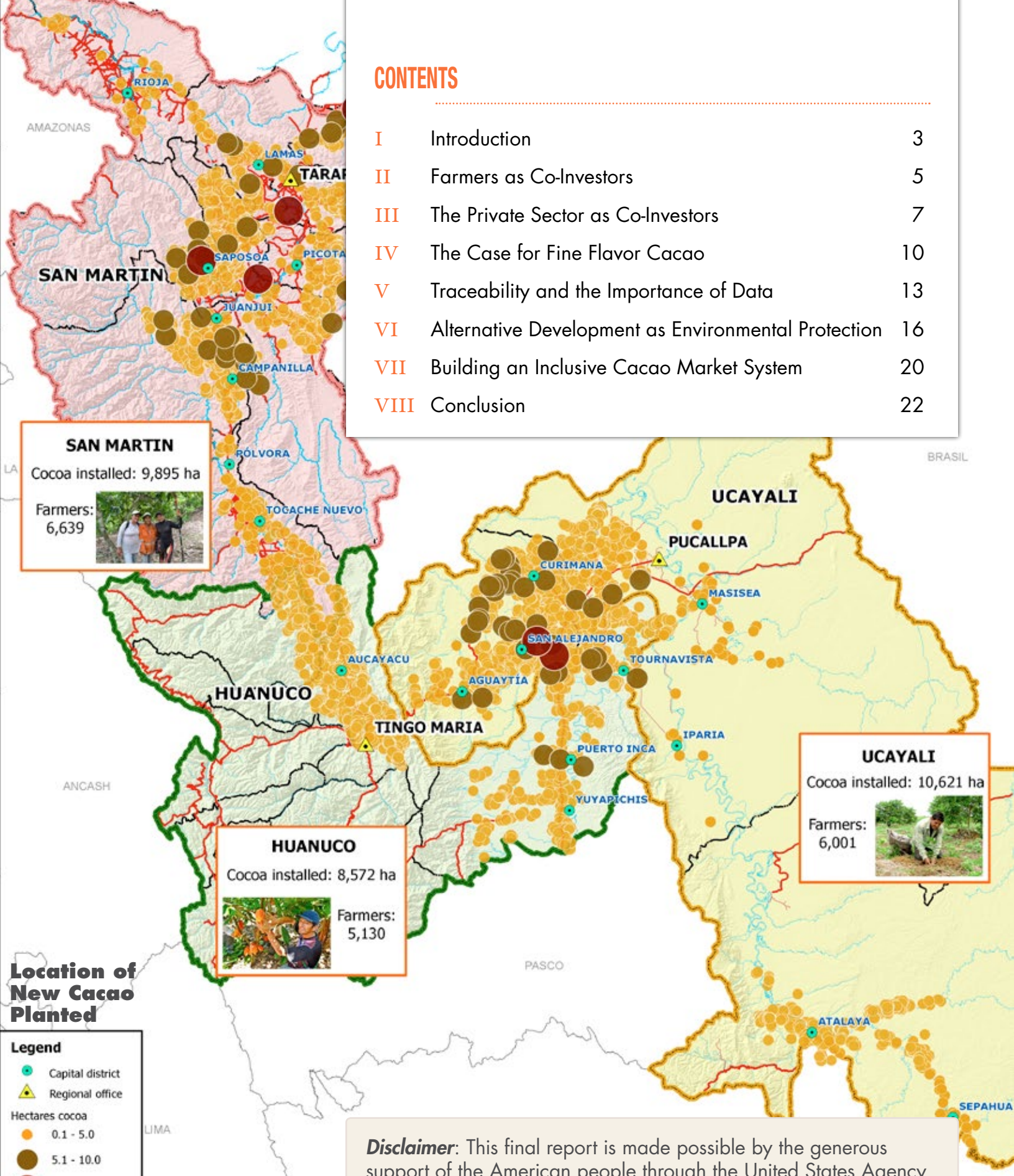
PERU COCOA ALLIANCE FINAL REPORT

An Inclusive Market Systems Approach to Alternative Development

OCTOBER 2016

Cooperative Agreement AID-527-A-12-00007

CONTENTS



Disclaimer: This final report is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of the Peru Cocoa Alliance and do not necessarily reflect the views of USAID or the United States Government.

Front cover: *Julio Satolaya, producer partner from the Alliance in Aguaytia, Ucayali, harvesting fine flavored cacao from his plot*

I INTRODUCTION

Success in implementing alternative development programs[1] is often portrayed in metrics; hectares of illicit crops planted and eradicated, hectares of licit crops planted, numbers of bags of seeds and tools distributed to former illicit cultivators, and value of exports of licit crops generated. The problem with reducing alternative development to this level of measurement is that new, licit crops planted in the wake of coca eradication are forced to compete with a sophisticated and highly developed supply chain for coca, which is strong at each link (supply of inputs, extension, processing, transport and logistics, and distribution) and lucrative. Unless actors involved in alternative development programs use a similar supply chain lens to approach alternative crops, the supply of new crops will increase, but without the overall market system to support the sales, processing, and consumption of newly produced goods. Ultimately, former coca farmers are not left with a viable alternative to illicit behavior.

The **Peru Cacao Alliance** represented an innovative approach to alternative development that would follow initial eradication and planting efforts with a more comprehensive intervention. The Alliance approached cocoa farming in Peru's Amazon through a supply chain lens and, for the first time, introduced a market systems approach to the cacao supply chain in an effort to ensure that former coca farmers had the ability to generate a family-supporting wage from their alternative crops, thereby raising them out of poverty and providing a more sustainable path away from illicit cultivation.

CARANA Corporation (now Palladium) approached USAID in 2011 with an innovative Global Development Alliance (GDA[2]) proposal under an Annual Program Statement mechanism[3] called the **Peru Cacao Alliance**. The proposal was the first of its kind to be considered by USAID Peru; it suggested that CARANA utilize USAID resources as a lever to obtain significant private sector investment in Peru's cacao supply chain, thereby doubling USAID's investment and bringing private investors to the table in the fight against illicit cultivation. CARANA proposed to use $36 million of USAID's alternative development resources to leverage another $49 million in private sector funds from co-investors Armajaro (now ECOM); Romex; a variety of financial institutions, agribusinesses, and producer organizations; and the Peruvian Government. Collectively, these partners committed to invest in new technologies and growing models to develop the supply chain, so that cacao produced in Peru's Amazon was more closely aligned with international buyer requirements with respect to quality and supply, and to the need for more specialized and lucrative varieties of cacao.

Applying this innovative approach to the cacao supply chain as a second stage following traditional alternative development activities (e.g., eradication, planting new crops at scale) required significant behavior change of members along the entire cacao supply chain, as well as among the donors, government actors, investors, and ultimately, the former coca farmers. The value proposition offered by CARANA and its private investor partners was that, by stimulating significant new investments in technology and agroforestry systems leading to a new supply

1 *The United Nations Office on Drugs and Crime (UNODC) defines alternative development as the process of preventing or eliminating illicit cultivation of plants containing narcotics through specifically designed rural development measures within the framework of a comprehensive solution to the problem of illicit drugs.*

2 *USAID's definition of a Global Development Alliance is a partnership involving USAID and the private sector in which the partners work together to develop and implement activities that leverage and apply their respective assets and expertise to advance core business interests, achieve USAID's development objectives, and increase the sustainable impact of USAID's development investments.*

3 *The link to USAID's Annual Program Statement Mechanism can be found here: www.usaid.gov/gda/global-development-alliance-annual-program*

of fine flavor cacao, smallholder cacao farmers would be provided with a more robust and sustainable income source, so they would not revert to coca farming and concurrently, stringent international buyer requirements would be more easily met.

While USAID was firmly behind this value proposition, the agency needed to realign its management approach to be one where it would oversee an Alliance of co-investor partners to manage a cocoa supply chain program, rather than hiring one implementing partner to complete program tasks and activities.

On October 9, 2012, CARANA signed a cooperative agreement with USAID to implement this 4-year (2012–2016) $85,767,917 program, of which USAID committed $36,050,770 and Alliance partners committed $49,717,147 (of which $43,280,704 was to be contributed by private actors and $6,436,443 by the Peruvian Government). Throughout its implementation, the **Peru Cacao Alliance** Team—based in Lima and with field offices in the regions of San Martín, Huánuco, and Ucayali—approached the development of the cacao market system through the following activities:

- Establishing strategic, commercial relationships with buyers, linking them more directly with international and domestic buyers to bring more value to producers and associations.
- Facilitating growth of cacao production via agroforestry models in three regions of Peru's Amazon.
- Strengthening producer organizations to improve post-harvest systems, so that farming communities could reap more value from cacao produced, and buyers could receive better quality and a more consistent cacao supply.
- Integrating new partners into the value chain in an effort to build the cacao market system, in particular to build the fine flavor cacao supply chain in Peru.
- Protecting the environment and promoting biodiversity, to ensure that cacao production is not encroaching on protected areas or undermining the environment or biodiversity.
- Facilitating sustainable models for small farmers to access finance, so they can make the investments they need to achieve higher yields.
- Using communications as a strategic tool to expand program impact.
- Strengthening gender equity so that women benefit equally from project interventions as their male counterparts.

After four years of implementation, the program spent $36 million of USAID's resources via the above activities and successfully leveraged $51 million from the public and private sectors to match this investment. Of this $51 million total of co-investment in alternative development, $48 million was from the private sector (of which 58% was contributed by small farmers in the form of labor and inputs), and an additional $2.5 million was leveraged from Peru's public sector towards program objectives. The **Peru Cacao Alliance** is widely considered a success, not only because it exceeded its key indicator targets, but principally because it launched the process to change the market system for cacao into a more inclusive one, ensuring the leverage of dozens of private sector partners; facilitating the beneficial inclusion of the poorest into the supply chain; and stimulating change, innovation, and resilience among market actors that will grow beyond the life of the project[4]. This final report of the **Peru Cacao Alliance** describes the journey that the Alliance took towards achieving this market system change within the cacao sector.

4 *USAID describes the market systems approach as complex systems that comprise multiple value chains and which include actors and dynamics at both household and community levels. The objective of inclusive market system development is to catalyze a process that results in a market system that is (i) competitive; (ii) inclusive, and (iii) resilient.*

II FARMERS AS CO-INVESTORS

Some agricultural development programs approach smallholder farmers and their families as beneficiaries in need, handing out assistance to farmers in the form of inputs, animals, seedlings, and/or primary processing machinery without requiring financial commitment in return. When the Alliance began, a number of alternative development actors utilized similar approaches as a way to compensate coca farmers immediately following eradication of their crops. There is merit in this approach, especially as a first stage activity toward alternative development, when a small farmer must begin a new economic activity from scratch and legal alternatives must compete with illicit businesses that are quick to offer support for the farmer to grow illicit crops following initial eradication.

While launching their program, members of the **Peru Cacao Alliance** witnessed multiple examples of how free assistance to cacao farmers reduced the value of the item or assistance donated. Donated processing machinery would gather dust, crops planted with free seedlings would fail, donated tree seedlings would die.

The Alliance team decided to take a different approach towards engaging farmers, by asking farmers to co-invest in the agroforestry model that they had developed.

The Alliance team decided to take a different approach towards engaging farmers in their value proposition. They asked farmers to co-invest in the agroforestry model that they had developed in collaboration with a number of actors—including the United Nations Office on Drugs and Crime (UNODC), the Institute of Tropical Crops (ICT), the cooperative ACOPAGRO, and Alliance subcontractor Casa Luker—marketing this model as a viable approach to cacao production. Many in the alternative and agricultural development community openly opposed this approach, dooming it to failure, suggesting that farmers would never co-invest, that fine flavor cacao was too difficult to grow, and that fine flavor cacao had no international market.

The **Peru Cacao Alliance** team members stood firm in the face of critics, believing that the farmers who were interested in co-investing were proving that they were willing to take a leap of faith to grow cacao differently. Through implementing its approach, the **Peru Cacao Alliance** team found farmers not only open, but amenable to the idea of co-investment in expanding their cacao farms.

Co-investment from cacao farmers took many forms. The first way in which the **Peru Cacao Alliance** encouraged farmers to invest was through participation in land preparation activities. Fifty percent of the initial cost of expanded cacao production is related to land preparation, so farmers were asked to contribute to this by removing rocks, cutting down shrubs, and leveling land for planting with their own funds. CARANA's team estimates that farmers contributed an estimated $20 million in land preparation costs.

Isuiza-Murrieta family, partners from the Alliance in Campo Verde (Ucayali), selecting cacao seedlings to install in their 3 hectares plot

> *"Look at those figures: 23,000 thousand hectares of geo-referenced fine flavored cacao! What the Peru Cacao Alliance has done will change Peru's role in the cacao and chocolate market forever. Not only because of the amount of hectares installed, but also because of the innovation on the logistics to deliver fine flavored cacao varieties to producers from the Peruvian Amazon."*
>
> Laurent Pipitone, International Cocoa Organization (ICCO)

A second investment required from Alliance farmers was in the form of assisting in the growing and planting of plantain tree seedlings. New cacao plants require shade to grow, so before planting new cacao, the Alliance needed a plan to assist farmers obtain and successfully plant an estimated 14.3 million plantain tree seedlings on a limited budget. When large-scale seedling farms did not produce the intended results, the Alliance team developed a creative solution: It turned participating farmers into plantain seedling producers. For each plantain seedling the Alliance donated to participating farmers, it asked for two seedlings in return to distribute to new farmers. Alliance team members worked collaboratively with municipalities, private sector partners, and trucking companies to borrow space on trucks to transport plantain seedlings, thereby saving the significant expense of transport. The Alliance team did not calculate the amount leveraged in free transportation generated through this approach, which is likely significant. The estimated co-investment generated by participating farmers for the plantain seedling effort is valued at $6.9 million.

A third way farmers co-invested in the **Peru Cacao Alliance** was by participating in the grafting process, a creative solution to convert regular cacao trees into fine flavored cacao producing trees, rather than planting new fine flavored cacao seedlings. The grafting process results in sharing the DNA of fine flavored cacao with popular cacao varieties, described in the video at [www.youtube.com/watch?v=Cvu5ukWloRo]. Farmers were asked to contribute samples, or "sticks," of fine flavored cacao plants from their existing plots and to contribute their labor in the packaging, transport, and planting of these fine flavor cacao sticks on new farming plots of farmers interested in growing fine flavored cacao. Other participating farmers constructed nurseries to create new cacao seedlings which could later be grafted with fine flavored cocoa sticks, using their own funds. As sticks and seedlings represent the highest cost to farmers wishing to plant new cacao, this co-investment from farmers is estimated as high as $1.1 million.

After the first year of planting, the **Peru Cacao Alliance** scaled up these logistics innovations and technologies to create many more fine-flavored cacao plant seedlings. More than 250 fine flavored cacao seedling nursery lots were created by partner farmers scattered across smallholder plots in the San Martín, Ucayali, and Huánuco regions of the Amazon. These seedlings are also included as part of the **Peru Cacao Alliance**'s traceability system, ensuring the traceability of this genetic material. The nurseries built at that time remain today, with participating farmers creating microenterprises to sell fine flavored sticks to outside entities, building the market system that will continue to sustain the fine flavored cacao supply chain in the future.

FORMS OF COINVESTMENT

Plantain seedling planting

Land preparation

Preparing fine flavor grafts

Location	Number of Co-Investing Farmers	Value of Co-Investment
Huánuco	4,353	$6,365,499
San Martín	7,299	$8,738,464
Ucayali	9,292	$11,204,884

III THE PRIVATE SECTOR AS CO-INVESTORS

Most alternative development programs function solely with donor-funds. Although a number of alternative development programs have evolved to include a market-based approach, and some have evolved to seek partnerships with international buyers to source crops with export potential, few private sector partners in Peru were co-investing in donor efforts targeting the development of their own supply chains. In the cacao supply chain, most of the largest private sector actors passively supported small producers through providing solid purchase agreements, but not much more.

The Alliance decided to take a different approach—to stretch USAID and Peruvian Government alternative development resources further, actively mobilizing large, private sector partners to co-invest in the **Peru Cacao Alliance** value proposition. CARANA reached out to its network of private sector partners—built over 30 years of working in Latin America, Africa, and Eastern Europe—leveraging private sector funding for USAID development objectives. It sought out and built partnerships with investors such as Armajaro (now ECOM), the world's largest cacao trading company, and Romex, one of Peru's largest coffee and cacao exporters, as well as numerous domestic financial institutions, international investors, and producer organizations. These partners mobilized around the concept of building an Alliance of cacao supply chain actors that could take Peru's cacao industry to the next level.

> *"The Alliance's ability to generate co-investment from farmers and to increase the number of hectares on which they produced was a great innovation, one that we hope to build on in Peru through Althelia's investment fund."*
>
> *Juan Carlos Gonzales Aybar, Director Latin America, Althelia*

What these original private sector partners of the **Peru Cacao Alliance** had in common was a belief that a new approach was needed to ensure the sustainability of Peru's cacao industry that was not solely based on farmer training. They believed that a comprehensive, supply chain management approach was required, focusing on improved incomes among producers, higher quality cacao, and strengthening the links of the supply chain to unlock more shared value throughout the supply chain. USAID Peru was intrigued with the approach, and in a departure from its traditional, alternative development programming, made a Global Development Alliance award to CARANA and its private sector partners.

Private sector alliances are not static; they are organic, and Alliance managers need to be flexible enough to modify partnerships in favor of those actors that continue to share the mission of the Alliance when original members move on.

While the members of the **Peru Cacao Alliance** began with a common understanding of shared goals, over time—with corporate mergers and evolving priorities, and through experience in working with smallholder communities in the Amazon in cacao production and in new agroforestry models—some of the Alliance partners shifted. Some of the original partners (e.g., ECOM) left the Alliance, and new private sector partners were added. By the end of the **Peru Cacao Alliance**'s first phase, the original, principally international Alliance members had evolved into 55 Alliance members, mostly from Peru's public and private sectors. The lesson taken from this experience is that private sector alliances are not static; they are organic, and Alliance managers need to be flexible enough to modify partnerships in favor of those actors that continue to share the mission of the Alliance when original members move on.

Megamar SAC is a private enterprise and an Alliance commercial partner located in Neshuya, Ucayali that buys fine flavor cacao varieties promoted by PCA. Megamar's post-harvest center is unique in its design and has controlled processes for quality assurance

Co-Investment in the Peru Cacao Alliance I Program

Name of Private Sector Alliance Members	Dollar Value (US$) of Co-Investment	Nature of Co-Investment
ARMAJARO/ECOM ARGOTRADE LIMITED	6,403,496	*Labor, Participant Time, Operating Expenses, Equipment, Travel and Transportation, Communications, Events*
ROMEX	5,884,964	*Labor, Participant Time, Operating Expenses, Working Capital, Travel and Transportation, Communications, Events*
CAJA MAYNAS	1,350,333	*Labor, Participant Tme, Operating Expenses*
CAJA SEÑOR DE LUREN	760,221	*Labor, Participant Time, Travel and Transportation, Cash*
CAJA NUESTRA GENTE-FINANCIERA CONFIANZA	2,121,223	*Labor, Participant Time, Operating Expenses*
OTHER FINANCIAL INSTITUTIONS	34,640	*Training Provided*
AMT AGROINDUSTRIAS SAC	1,430,000	*Cacao Processing Facility and Plant*
PROCESADORA TROPICAL	249,258	*Plantain Processing Facility*
CARANA AGRIBUSINESS PARTNERSHIP LLC	232,177	*Labor, Participant Time, Operating Expenses*
COPRODELI	148,020	*Irrigation System*
CAFÉ PERU	616,534	*Labor, Participant Time, Operating Expenses*
GRUPO MEGAMAR SAC	501,050	*Post-Harvest Infrastructure*
ACOPAGRO	235,641	*Cacao Aggregation and Collection Center*
VARIOUS	286,939	*Miscellaneous*
PRODUCER ORGANIZATIONS	28,308,349	*Labor, Inputs, Miscellaneous*
Sub-Total of Private Investment Leveraged	**48,562,845**	
Name of Public Sector Alliance Members		
REGIONAL GOVERNMENT OF UCAYALI	740,959	*Training and Equipment*
MUNICIPALITIES	1,298,533	*Labor, Participant Time, Operating Expenses, Working Capital, Travel and Transportation, Communications, Events*
	126,693	*Travel, Transportation, Communication Events, Training*
DEVIDA-PUCALLPA	126,693	*Travel, Transportation, Communication Events, Training*
MINISTRY OF AGRICULTURE	325,571	Equipment, Centralized Post-Harvest Modules
Sub-Total of Public Investment Leveraged	**2,584,047**	
TOTAL US $ CO-INVESTED FROM PRIVATE AND PUBLIC ACTORS	**$51,146,892**	

PARTNERS

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CARANA
AGRIBUSINESS PARTNERSHIPS

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Central Café & Cacao

COPRODELI

1849 ECOM

Grupo Megamar s.a.c.
extract,process and export

RomEx
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IV THE CASE FOR FINE FLAVOR CACAO

Global consumers increasingly demand higher quality chocolate and new flavor profiles. At the initiation of the **Peru Cacao Alliance**, Peru was producing an estimated 62,500 tons of cacao a year, of which the estimated majority was of the CCN-51 variety favored by Peruvian Government-supported programs as a preferred alternative development crop. The remainder of production was in fine flavored cacao and other native varieties, which were more complicated to grow, but increasingly sought by exigent international buyers.

> *"It makes sense for Peru to aim at the exclusive fine flavor markets where it can be a major player and benefit from significant premiums".*
>
> *Laurent Pipitone, International Cacao Organization (ICCO)*

In most cacao-producing countries, supply chain actors mix high and low grades of cacao during harvest and in the post-harvest period, lowering the overall quality of the product as well as the potential sale price. This tradition persists in spite of the fact that price premiums are offered by buyers to producers and associations that are able to produce higher quality cacao, and properly separate and process beans by size and quality.

The **Peru Cacao Alliance** team believed it was not realistic to think that Peru could compete in terms of scale or production with its West African competitors, and that producing higher quality cacao and chocolate would be a more profitable value proposition for all members of Peru's cacao value chain. The team decided that the best way for Peru to differentiate itself in the global cacao market would be to significantly expand the country's offering of fine flavor cacao, which would not only provide it with a global niche, but would also bring more profit and benefits to producing communities, so that they could generate a family-supporting wage, competing more favorably with illicit crop production.

> *"For me, receiving a fine flavored cacao bud is like receiving a gift. A gift for my children's future. I know that by selling fine cacao I will receive better prices that will pay for their education. Can I ask for something better than seeing my kids growing up safe and educated? I don't think so. That's why I became an Alliance partner, to be part of a network of entrepreneurs that share this treasure called fine flavored cacao".*
>
> *Margarita Quiroz, Producer from Santa Helena, Ucayali Region*

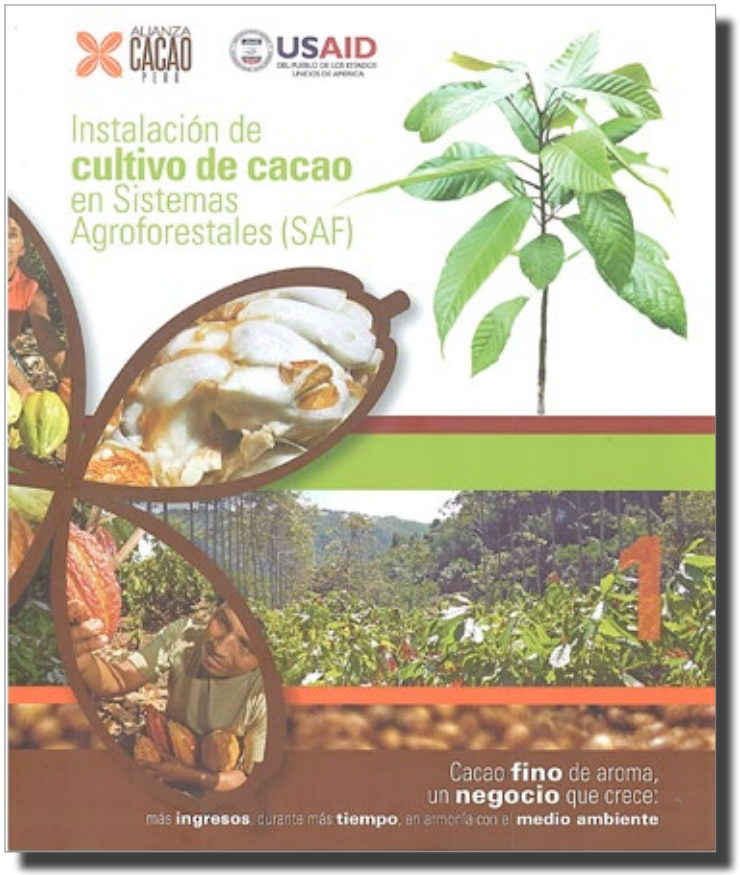
Based on this value proposition, Alliance co-investors and subcontractors collaborated to develop a new fine flavor cocoa agroforestry model, as well as technical assistance packages for specialized management at the farm level. To begin, the Alliance sourced a group of experts from UNODC, ICT, the cooperative ACOPAGRO, and Alliance subcontractor Casa Luker, who collectively identified the fine flavor cocoa varieties that would best adapt to the **Peru Cacao Alliance** target regions. These actors later defined the clonal arrangements that would ensure sufficient yields for farmers and would prove competitive with other cacao clones such as CCN-51. With this information, the Alliance designed the new agroforestry and planting models, designed a training and technical assistance package, and put in place a massive outreach and training program with the goal of planting 28,000 hectares of cacao, of which 23,000 hectares would be fine flavor cacao.

The Alliance's agroforestry model was widely and successfully adopted by 12,312 farmers. These farmers were brought into the **Peru Cacao Alliance** through numerous field technicians in collaboration with dozens of cooperatives, aggregators, and buyers. The technical assistance to impart the agroforestry model at scale was originally designed to be delivered by Alliance partner Source Trust. However, after a few months of implementation, the Alliance found that the methodology designed

to share the model at scale was not generating the desired results. The **Peru Cacao Alliance** team stepped in to assume technical assistance responsibilities directly to expand the adoption of the agroforestry model at scale, hiring agricultural extension agents, creating partnerships with associations and farmers in the three target regions, developing innovative seedling schemes, and putting in place a massive technical assistance, training, and logistics program.

By the end of the **Peru Cacao Alliance** program, 17,000 farmers had been supported to receive appropriate inputs and training. These farmers planted 28,000 hectares of new cacao, 81% of which was fine flavored cacao, and 56% of which used the new agroforestry model. In 2016 Peru was ranked the fourth largest supplier of fine flavor cacao, producing an average of 24,690 tons between 2011 and 2014, representing approximately 10% of world market share. If the **Peru Cacao Alliance**'s future work is successful and current trends continue, fine flavor cacao production facilitated by the Alliance will exceed 21,000 tons by 2020, making Peru the second largest exporter of fine flavor cacao in the world.

Location	Hectares of Cacao Grafted with Fine Flavor Cacao Plants	Total HA of Cacao Planted
Ucayali	6,974	10,621
San Martín	8,927	9,895
Huánuco	6,761	8,572



Manual used to train farmers in how to produce and harvest fine flavored cacao

Armando Cajas is a producer partner from the Alliance in Chazuta, San Martín, who owns a 3 hectares plot, 2 of which has fine flavored varieties already in production stage

FULFILLING A PROMISE

INCREASING FARMER INCOMES THROUGH FINE FLAVOR CACAO

Megamar, a commercial partner of the Peru Cacao Alliance, is buying fine flavor cacao at higher prices, offering 10% above the price of conventional cacao to the producers of Bolsón Cuchará and La Morada in Huánuco, and Curimaná in Ucayali. To date, Megamar has aggregated 12 metric tons (MT) of dried cacao and plans to fill a 25-MT container for their clients in the United States and Asia by the end of July.

In July 2015, Megamar decided to commit to the fine flavor cacao business. To demonstrate its commitment, it constructed a post-harvest processing facility specifically for fine flavor cacao. This factory—inaugurated as "Ucayali River Cacao"—is located in the village of Pueblo Libre, Curimaná district, and has the capacity to process approximately 300 tons of fine flavor cacao annually.

In May 2016, Megamar entered into commercial agreements with producers from Huánuco and Ucayali, with assistance from the Peru Cacao Alliance. When exposed to proper post-harvest handling, the fine flavor cacao beans provide unique and exclusive flavor profiles chocolatiers crave to supply international markets. "We only buy fine flavor cacao because we have [international] clients for this type of cacao and we want to contribute to positioning the good name of Peru as a model of excellence in cacao," explains Marcos Blitchtein, Manager of Megamar SAC.

Megamar buyers travel every 15 days to the surrounding communities to buy fresh cacao beans from fine flavor cacao producers. Megamar's Director Israel Gonzáles explains, "We buy cacao in the same place each time and pay on the spot so the producers save time and money in transportation and processing; they don't have to ferment and dry the cacao then go look for a buyer…there are real advantages to working with Peru Cacao Alliance members in Ucayali and Huánuco."

Farmers and chocolate companies both win when producing and buying fine flavor cacao. Higher prices are paid to farmers, chocolate companies obtain the supply they are seeking, and Peru's Amazon reaps the prestige of producing higher quality cacao for international markets.

Armando Cajas is a producer partner from the Alliance in Chazuta, San Martín, who owns a 3 hectares plot, 2 of which has fine flavored varieties already in production stage

V TRACEABILITY AND THE IMPORTANCE OF DATA

The global cacao market is evolving, with a growing number of consumers caring more about the quality of the chocolate they eat, as well as the conditions of the farmers producing cacao. More than ever before, global consumers want to support the livelihoods of small farmers that grow 90% of the world's cacao, and avoid contributing to the evils of child labor, deforestation, and reduced biodiversity.

Creating a traceability system that would allow buyers to pinpoint where the cacao they were buying was grown and how it was produced, harvested, and processed was an important requirement for a number of international buyers interested in participating in the **Peru Cacao Alliance**. To address this need, the Alliance team subcontracted Canadian firm Geotraceability, which had developed similar traceability systems for agricultural projects in multiple developing countries. Geotraceability helped the Alliance establish its first traceability system, in which information on plot size was generated using GPS trackers, and farmer, plot, and extension information was collected by hand by agricultural extensionists based in the field. The information was sent electronically to Geotraceability's international offices where it automatically populated the traceability and satellite-enabled mapping software, plotting farmers onto an Internet accessible, satellite-enabled map.

> *"The growing demand in Europe and the world for dark chocolate with high cacao content, requires fine flavor cacao, which allows us to be optimistic about our ability to secure markets for fine flavor cacao from Peru cultivated by the Alliance's partners. Through PCA's traceability system, we can offer our clients a sustainable, transparent supply chain, which adds value to their products and therefore, will guarantee better prices for producers".*
>
> Arjen Thiescheffer, director of COCOANECT

While the Geotraceability system functioned well, having the traceability system centralized on another continent made it difficult and time-consuming to make modifications to the system. Therefore in Year 2 of the project, the **Peru Cacao Alliance** team designed its own satellite-enabled traceability system, managed entirely in house by the project team in Lima. The updated traceability system managed by the **Peru Cacao Alliance** from the Lima office now represents the most robust database of fine flavor cacao farmers and extension services in the world.

While the Alliance team members knew the system would serve as an excellent project management monitoring tool and would provide necessary assurances to buyers that the supply chain is sound, what they did not anticipate was how the traceability system could serve as a powerful tool for attracting investment to the fine flavor cacao value chain.

Today, the **Peru Cacao Alliance** team is approached by dozens of investors each month, whose principal request is access to farmer data. Managing this data has become the core business of the **Peru Cacao Alliance**, and one of the Alliance's most valuable assets. The robust data set and satellite imagery allow the team to generate reports for investors so they can identify where most smallholder farmers producing fine flavoured cacao are concentrated, what are the most appropriate locations for investments in post-harvest handling, and where the most appropriate sites might be for new input providers, production facilities, or irrigation sites, among other investments. Moving forward into the next phase of the **Peru Cacao Alliance**,

Julio Satolaya producer partner from the Alliance in Aguaytia, Ucayali, removing branches from a cacao tree

the team will continue to build upon, improve, and enhance the capability and functionality of its traceability system, so the Alliance can offer its services to an even wider range of potential investors, further building on the development of Peru's cacao market system.

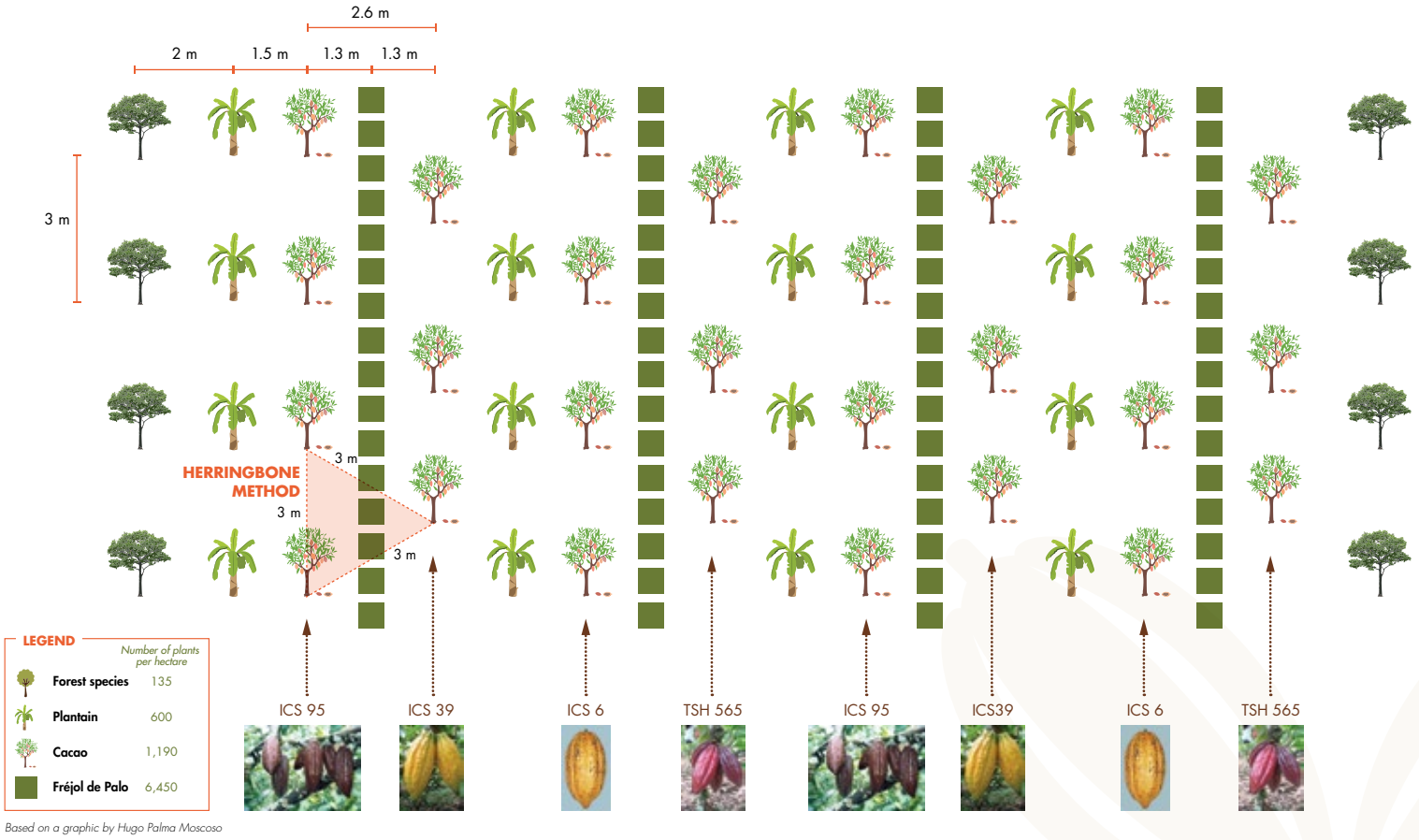
Screenshots showing details captured by the traceability system taken from the traceability system

Women drying cacao beans at Allima Cacao Cooperative in Chazuta, San Martin. Allima Cacao has a women's group called Allima Warmiqunas who make products derived from cacao such as bombons, chocolates and cacao liquor

VI ALTERNATIVE DEVELOPMENT AS ENVIRONMENTAL PROTECTION

To install 29,000 hectares of mostly fine flavor cacao in Peru's Amazon within four years, the **Peru Cacao Alliance** introduced an innovative agroforestry model. Introduction of this model meant that the program would not only create new value for the members of the cacao, timber, and plantain supply chains, it also meant that the program would bring significant and long-lasting environmental protection and biodiversity protection benefits to Peru.

The agroforestry model introduced by the Alliance required that mother pollinator cacao plants of different varieties be strategically planted and interspersed with plantain, Bolaina (Guazuma crinita), and Capirona (Calycophyllum spruceanum) trees to provide shade, cross-fertilization of the soil, and additional income streams for farmers while the cacao trees were reaching maturity. Reforestation of the Amazon was also an important goal for Alliance members, given that many cacao farms were located on formerly eradicated coca farms located in or near protected areas within the Amazon[5].



Based on a graphic by Hugo Palma Moscoso

The agroforestry model

5 *While the rest of the world's agricultural supply chains are seeking to expand growth on larger plots of contiguous land, the opposite is true for the coca supply chain, in which illegal growers are breaking up their larger farms, which are more easily located and eradicated, and replacing them with more and smaller coca farms deeper into rainforests and protected habitats.*

To obtain the tree seedlings utilized in the agroforestry model, the original idea of the **Peru Cacao Alliance** was to purchase them from Alliance subcontractor Source Trust. However, upon better reflection on costs, the team realized that project funds were insufficient to purchase the estimated 2 million tree seedlings of Bolaina and Capirona trees required for 29,000 hectares of cacao farms. They also realized they did not have the resources to transport tree seedlings to the more than 15,000 farms across hundreds of kilometers of the Amazon.

To address this budgetary and logistical challenge, the **Peru Cacao Alliance** team rallied Alliance-member farmers to produce trees on their cacao farms, while providing these farmers with tree seedlings and limited technical assistance. Unfortunately, this approach was unsuccessful, as cacao farming and tree farming are very different, and farmers had limited understanding on how to take care of tree seedlings grown at scale. The Alliance team regrouped and developed a revised strategy, relying on regional project teams to leverage public and private actors to build large-scale tree seedling nurseries in different geographic zones, and selling the effort as a reforestation program.

Isaac Tunbay, Peru Cacao Alliance partner in Huánuco, transplants a Bolaina seedling

Each of the geographic regions targeted by the program developed a unique solution. In the Huánuco region, the **Peru Cacao Alliance** Office Director approached the mayor of the city of Aucayacu with his problem of large demand for tree seedlings, yet no supply. The mayor had a solution: to co-invest with the Alliance in the creation of a large-scale nursery capable of growing 600,000 seedlings, paid for and managed by the municipality. The endeavor was so successful, and the mayor was so pleased that he was receiving assistance to reforest his region, that he has since expanded the municipality's seedling farm, turning it into a campaign promise of planting one million new trees in an effort to protect the Amazon rainforest. In other regions, private nurseries were created and community members provided labor to manage them.

Once the tree seedlings from these nurseries were mature enough to distribute, the Alliance team recruited farmers, cacao associations, municipalities, and private sector partners to support distribution. To cut transportation costs, multiple seedlings were placed in larger bags, and Alliance team members found backhaul opportunities among private companies to transport seedlings across the Amazon on routes where trucks would normally return empty. Now, with more savvy about the pitfalls of seedling production, farmers became committed to planting the seedlings on their cocoa farms, provided they received more appropriate technical assistance.

The 2 million trees planted by the **Peru Cacao Alliance** now represent another income stream for farmers, as well as an important carbon capture activity. The Alliance team has since entered into a partnership with timber processor Grupo Industrial Foresta based in Aucayacu, which has committed to purchasing wood harvested from the Alliance farmers, while providing technical assistance to farmers leading to sustainable harvesting, and supporting farmers to plant new trees. If farmers harvest trees properly, they can gain income from the part of the tree that

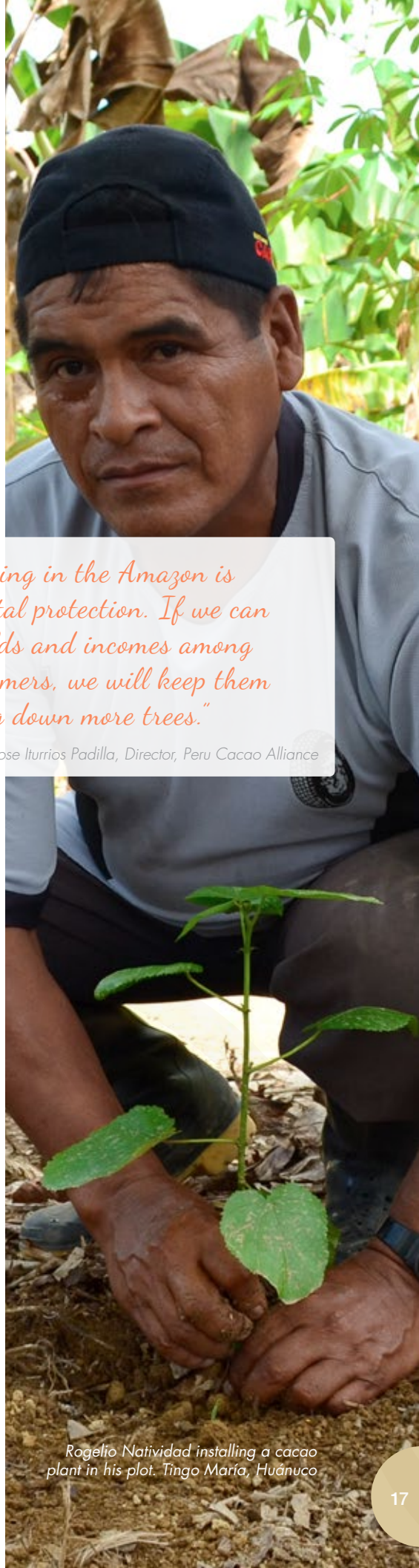
is harvested, and the tree will grow back on its own, providing another source of income three to six years from now.

Regarding carbon capture, USAID's Office of Global Climate Change in Washington, together with the Climate Change Agriculture and Food Security Program (CCAFS) of CGIAR, a global agricultural research partnership, conducted an analysis of the **Peru Cacao Alliance** to measure its ability to reduce carbon dioxide emissions from agriculture. Preliminary results measuring the benefit of expanding just cacao (not including the plantain or other trees planted) on 29,000 hectares, is that this activity produces a significant climate change mitigation benefit. The Alliance projects significant carbon sequestration from perennial crop expansion (–211,467 tCO_2e), which more than offsets increased greenhouse gas (GHG) emissions from fertilizer and pesticide management (10,286 tCO_2e). Overall, the Alliance's interventions resulted in a significant reduction in crop emissions intensity (GHG emissions per unit of production) driven by increases in carbon sequestration per hectare and increased yields.

Available land is not in short supply in the Amazon, however much of the rainforest is protected, and expansion into new areas that are not already deforested is prohibited. Now that the Alliance's cacao plants on 29,000 hectares are nearing harvest, the **Peru Cacao Alliance** must shift its resources towards improving yields of cacao on existing cacao farms, so that farmers don't look to expand the amount of land on which they plant. Currently, the average cacao farmer within the Alliance generates yields of 518 kg per hectare, where yields of 2,000 kg per hectare are possible, especially in a tropical climate.

> *"Cacao farming in the Amazon is environmental protection. If we can improve yields and incomes among Alliance farmers, we will keep them from cutting down more trees."*
>
> *Jose Iturrios Padilla, Director, Peru Cacao Alliance*

Significantly improving yields on land currently planted with cacao in Peru's rainforest is a priority for the **Peru Cacao Alliance**'s next phase (2016–2021).



Rogelio Natividad installing a cacao plant in his plot. Tingo María, Huánuco

A GREEN PATH

THE BALANCE BETWEEN GROWTH AND ENVIRONMENTAL SUSTAINABILITY

In the Alto Mayo Valley, authorities and citizens act daily to conserve their forests. This is the site of one of the most important forest conservation areas in the country: the protected forest of Alto Mayo, with almost 425,000 hectares forested, is protected by the State through the San Martín Regional Government.

The Calzada Municipal District is an outstanding strategic partner of the Peru Cacao Alliance. Since our first conversations, our shared goals led to signing of an agreement in October 2015 that formalizes our joint conservation work and will serve as an example to other municipalities of the Alto Mayo Valley.

The mayor of Calzada, Elvis Chávarri, shared the expectations he has of working with the commercial model proposed by the Alliance, during the anniversary celebration of Calzada: "We have found an important ally for local economic growth and the recovery of our forests, and will work hand in hand with cacao farmers who contribute to reforesting our district."

Through the model proposed and managed by the Municipality of Calzada, local economic growth goes hand in hand with a reforestation plan in which the town plays an important role. An example is the establishment of the Conservation and Recovery Zone of the Morro de Calzada. Participants, who are also members of the Peru Cacao Alliance, worked with our technical specialists and the Regional Government of San Martín to establish three community hardwood nurseries for the production of forest species and cacao seedlings. They have the potential to supply to 52 members and reforest almost 150 hectares every 3 months with Capirona, Bolaina, or Cacapana.

All partners involved in this economic development and reforestation initiative make specific contributions: The Peru Cacao Alliance contributes seeds, bags, and technical assistance; the District government of Calzada and the Regional Government of San Martín contribute infrastructure and technical assistance; and cacao producers contribute labor for the installation of the nurseries in Calzada. This is how the public-private alliance model makes environmentally sustainable and economic growth initiatives a reality in the region of San Martín.

Hardwood nursery built in the conservation and recovery area of Moro de Calzada

> *"With fine flavor cacao under agroforestry systems, we secure the sustainability of our forests in Alto Mayo and work for the progress of our farmers."*
>
> *Elvis Chávarri Horna, Mayor of Calzada, Moyabamba, San Martín, October 2015*

VII BUILDING AN INCLUSIVE CACAO MARKET SYSTEM

The **Peru Cacao Alliance**'s interventions spurred a multitude of partnerships, investments, and innovations, targeting new technologies in cacao production, post-harvest treatment, and processing in Peru and elsewhere, leading to a strengthening of the overall market system for fine flavoured cacao.

One such technological innovation was the creation of modern irrigation systems for smallholder cacao farmers. Many smallholder farmers associated with the Alliance have suffered drought in recent years due to the effects of El Niño. Some Alliance-supported cacao farmers, such as José Rojas, took a proactive approach to this problem, investing his own resources in wells and irrigation systems on his cacao farm, successfully leveraging financial support from Peru's Ministry of Agriculture and Irrigation to complete his system. Alliance member and cooperative ACOPAGRO, together with Israeli irrigation company NaanDanJain, collaborated to take this approach to scale by developing a new irrigation system based on drip irrigation and micro-sprayer modules specifically designed for smallholder cacao farmers in the Amazon. A pilot system in which NaanDanJain and Mr. Rojas co-invested was installed on his cacao farm, improving his cacao yields from 800 kg per hectare to 2,300 kg per hectare. NaanDanJain and ACOPAGRO plan to roll out this irrigation system to more than 100 smallholder farmers within ACOPAGRO's membership, providing affordable loans to farmers to José Rojas operating his modern irrigation system finance their co-investment in this valuable asset, which is sure to boost productivity, income, and sales among cacao farming families throughout the Amazon.

Another innovation that has been replicated by private sector actors is the **Peru Cacao Alliance**'s traceability system. After private sector Alliance partners Norandino, Oro Verde, and Italian company Altomerkato were introduced to the Alliance's satellite-enabled traceability system, they immediately added the attributes of the system to their own traceability systems, representing another way that the Alliance is building a more robust market system to support the fine flavor cacao supply chain.

José Rojas operating his modern irrigation system

Peru Cacao Alliance team members are recognized for their excellent services in programming visits to fine flavor cacao actors throughout the Amazon for key investors and donors. Since its inception, the Alliance team has received investor and donor delegations from the United States, Colombia, El Salvador, and Italy, each of whom took lessons learned from the Alliance to apply elsewhere, or decided to become members of the **Peru Cacao Alliance** themselves to invest more in the fine flavor cacao supply chain locally. With each year, the Alliance grows in membership, further strengthening the fine flavor cacao market system. The **Peru Cacao Alliance** team is now developing a for-profit arm of the Alliance to continue to provide investor services to a larger group on a broader scale.

The Alliance's strategy to create sufficient cacao seedlings by asking farmers to co-invest in seedling growth is another innovation that has spun off into new businesses and opportunities. Of the thousands of farmers who co-invested with the Alliance to produce cacao seedlings, many have continued their operations, now selling fine

Angelo Agostoni, ICAM CEO, visiting fine flavor cacao plots in Ucayali, June 2016

A USAID delegation visits the AMT Agroindustrias post-harvest facility in Aguaytia, Ucayali

Grafting process of fine flavor cacao buds in cacao plants. Tingo María, Huánuco

flavor cacao sticks to be grafted elsewhere to private and public actors within and outside of the **Peru Cacao Alliance**. This innovation has significantly increased Peru's capacity to rapidly produce the planting materials required to conduct large-scale planting programs of fine flavor cacao in Peru and elsewhere.

The promise alone of thousands of farmers ramping up production of fine-flavor cacao and plantain in the Ucayali region was enough to prompt Alliance member AMT to invest in a large scale aggregation, drying, and processing facility to produce fine flavour cacao beans, cacao nibs, chocolate bars, and plantain chips. AMT's management team used family resources to build a modern aggregation, post-harvest, and fermentation facility, developing innovations and post-harvest processing technologies that built on lessons learned from visiting other drying and processing facilities throughout Peru. Now that the facility is operational, AMT will need Alliance support—support to complete the facility and obtain sufficient working capital and farmer connections to purchase sufficient supplies of wet and dry cacao beans for full capacity operations. The facility is the single largest cacao aggregation, fermentation, and processing facility in Peru's Amazon.

VIII CONCLUSION

The **Peru Cacao Alliance**, in addition to its recognition as USAID's largest Global Development Alliance and the world's largest donor-funded agroforestry program, ushered in a new chapter in alternative development. During its first phase, the project achieved all its key, programmatic targets and stimulated noteworthy behavior change among actors along the entire cacao supply chain in Peru, influencing how investors, donors, government programs, and producers address the cacao sector, and in particular the fine flavor cacao supply chain.

The Alliance brought a market systems approach to build upon Peru's existing alternative development efforts, shifting the perception of former coca farmers from beneficiaries to co-investors, insisting on co-investment from program partners, and motivating use of new technology and practices at the producer and aggregator levels preferred by national and international buyers.

> *"One of the best ways to offer added value in chocolate industry, is through offering a traceable product. By telling the story of the origin, you are providing all the qualities of that origin to your product. What an excellent way to promote Peruvian cacao through a high quality chocolate!"*
>
> *Angelo Agostoni, CEO ICAM*

Throughout its implementation, the program evolved alternative development programming towards a partnership and investment-based implementation model that ensures longevity and shared value among all the supply chain actors. USAID's alternative development investments in cacao were more than matched by private sector partners, and the program further stimulated millions of dollars of public sector resources to complement the program's activities.

Today, the cocoa planted and processed through participation in the Alliance is connected more strongly to the stringent requirements of national, regional, and global fine flavored cacao markets, and crops are increasingly grown with the newest technologies and post-harvest techniques, thereby bringing significantly more value to smallholder cacao farmers.

Now that the herculean effort is over—the planting of 29,000 hectares of mostly fine flavored cacao, along with 2 million trees and roughly 14.3 million banana trees—the challenge for the second phase of the **Peru Cacao Alliance** (2016–2021), led by Palladium (formerly CARANA) is to build on these successes. Palladium has leveraged $53 million in commitments from a new set of 13 private sector partners, all committed to the shared value proposition that fine flavor cacao represents for Peru and its Amazon. These partners will make specific investments in 16 priority corridors within the Amazon to improve yields, post-harvest processing, sales, processing capacity, and the distribution of financing for cacao smallholder farmers (especially women), leading to significantly higher incomes for participating farmers, expanded sales, and increased exports of cacao and its derivatives.

By the end of the new **Peru Cacao Alliance** program (2016–2021) the Alliance and its partners will have developed 16 new, regionally-based alliances and business models that will serve as profitable platforms for fine flavor cacao service delivery. The technical assistance support to smallholder farmers in the Amazon provided by the Alliance will continue long after the project concludes.

Thanks to the investments made by USAID, the Government of Peru, private sector actors, and Peru's cacao farmers, Peru's cacao industry is much different today than it was five years ago. As the harvest of the fine flavor cacao planted under

the **Peru Cacao Alliance** begins, we can be assured that fine flavor cacao will continue to increase in availability and importance to the cacao industry in Peru, and with it, more value will be distributed across all members of the value chain, most importantly to the small farmers and former coca growers now producing cacao in Peru's Amazon

Peru Cacao Alliance Performance Indicators	Target	Achieved
Number of families that benefit from value chains and/or access to finance	23,000	**23,224**
Jobs created	18,000	**20,934**
New hectares of cacao planted	28,000	**29,089**
Number of producers with improved access to markets through purchase agreements included in business plans	10,000	**19,800**
Number of hectares planted under agroforestry systems	16,800	**15,699**
Incremental increase in cacao undergoing post-harvest processing*	6,000	**4,286**
Number of market-led value chains that link strategic buyers with organizations, producers, financing, and other services.	5	**5**
Funds leveraged (US$) from private and public sources	49,717,147	**51,146,892**
Number of organizations trained in business and financial management	10	**12**
Value of loans made by financial institutions in alternative development areas ($)	44,000,000	**20,226,259**
Number of families that accessed financial services	10,000	**4,434**
Number of families that accessed finance without USAID support	2,500	**0**
Number of companies and/or financial institutions with more competitive financing services	1	**1**
Number of qualified financial institutions	4	**4**
Number of hectares incorporated into a traceability system	23,000	**21,877**
Number of seedlings produced	-	**-**

** Figures from 2014 and 2015 are actual, and 2016 incremental increase figures are based on an estimate.*

KEY ACHIEVEMENTS

23,224 FAMILIES that benefit

20,934 JOBS

29,089ha CACAO planted

19,800 PRODUCERS with improved market access

15,699ha planted under FORESTRY SYSTEMS

4,286T increase in POST-HARVEST PROCESSING

5 new market-led VALUE CHAINS

US$**51,146,892** LEVERAGED from public and private sources

12 ORGANIZATIONS trained in business and financial management

US$**20,226,259** INVESTMENT in alternative development areas

4,434 families ACCESSING FINANCIAL SERVICES

1 company with more COMPETITIVE FINANCING SERVICES

4 qualified FINANCIAL INSTITUTIONS

21,877ha incorporated into TRACEABILITY SYSTEMS

Jose Iturrios Padilla, *Director*

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